



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D206-558-041
Job Sheet 181608



Part No: D206-558-041

Job Qty: 1 ea

Part Name: Single Mirror Installation



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 8/1/18

Job Tracking No:

Due Date: 8/28/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV D SHEET 13 IPP F 02.09.19 Re-format; Incorporated D2065 KJ IPP Rev:G 08-05-14 now @ chg006/ add D3778-1 per ECN1171 DD verified:ec IPP Rev:H 08-08-19 now @ chg 007 DD verified by:ec IPP Rev:I 10.03.17 add pick kit DD verified by:JLM IPP REV:J 11.01.19 AS PER CHG009 DD VERF:EC IPP REV:K 14.09.09 AS PER IIN REV.D DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Lead Time	Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier			
90	Start up Operation	1 Ea	8/28/18	8/28/18	0.00	0.00	Start Up Small Fab-4			AUG 07 2018
110	Small Fab	1 pcs	8/28/18	8/28/18	0.00	0.71	Small Fab-1			DAS 58 38
120	QC	1 pcs	8/28/18	8/28/18	0.00	0.00	QC5			AUG 10 2018
125	Packaging	1 pcs	8/28/18	8/28/18	0.00	0.00	Packaging1-2			AUG 10 2018
130	QC	1 pcs	8/28/18	8/28/18	0.00	0.00	QC4			AUG 10 2018
135	DC	1 pcs	8/28/18	8/28/18	0.00	0.00	DC			AUG 10 2018
140	Packaging	1 pcs	8/28/18	8/28/18	0.00	0.00	Packaging3-1			AUG 10 2018
150	QC21-FG	1 Ea	8/28/18	8/28/18	0.00	0.00	QC21			AUG 10 2018

Part Op 110 - Assemble as per Dwg D206-558 PAGE 10 IN BLUE FILE

Descriptions: 135 - Photocopy bluefile and type labels as per PPP D206-558-041 CHG009

140 - Identify and pack for shipping as per PPP D206-558-041

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2011-101	Mirror 6"	1 Ea (1 ea)	90-Start up Operation	5082123
D2052	Bracket CA17	2 Ea (2 ea)	90-Start up Operation	5081100
D2054	Bushing - Delrin CA126	2 Ea (2 ea)	90-Start up Operation	5094937
D2055	Clamp CA126	1 Ea (1 ea)	90-Start up Operation	5161897
D2056	Bell Crank Assembly C.A.B.C.	1 Ea (1 ea)	90-Start up Operation	5007989
D2057	Plug CA126	1 Ea (1 ea)	90-Start up Operation	5165518
D2065	Mirror Arm	1 Ea (1 ea)	90-Start up Operation	5089340
MS21042L3	Nut	2 Ea (2 ea)	90-Start up Operation	5124326
MS27039-1-18	Screw	2 Ea (2 ea)	90-Start up Operation	5068661
NAS1149D0363J	Washer	4 Ea (4 ea)	90-Start up Operation	5060063
AN3-4A	Bolt	4 Ea (4 ea)	125-Packaging	5139736-4
AN526-1032R9	Screw	4 Ea (4 ea)	125-Packaging	5027177
D2053	Bracket	1 Ea (1 ea)	125-Packaging	5097101
D2067	Connector	1 Ea (1 ea)	125-Packaging	5072096
D2071	Cable Assembly - 32"	1 Ea (1 ea)	125-Packaging	5162716
D3778-1	Bracket	1 Ea (1 ea)	125-Packaging	50893552
MS21042L3	Nut	1 Ea (1 ea)	125-Packaging	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

MS21919-DG5	Clamp	2 Ea (2 ea)	125-Packaging
MS35489-67	Grommet	1 Ea (1 ea)	125-Packaging
MS35489-9	Grommet	1 Ea (1 ea)	125-Packaging
NAS1149D0332J	Washer	6 Ea (6 ea)	125-Packaging

5083552
7121600
EM136044
5035396

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2011-101	1	17	0
	D2052	2	17	0
	D2054	2	19	0
	D2055	1	11	0
	D2056	1	13	0
	D2057	1	10	0
	D2065	1	9	0
	MS21042L3	2	4,489	0
	MS27039-1-18	2	1,250	0
	NAS1149D0363J	4	1,946	0
	AN3-4A	4	229	0
	AN526-1032R9	4	60	0
	D2053	1	4	0
	D2067	1	22	0
125-Packaging	D2071	1	13	0
	D3778-1	1	4	0
	MS21042L3	1	4,489	0
	MS21919-DG5	2	38	0
	MS35489-67	1	29	0
	MS35489-9	1	32	0
	NAS1149D0332J	6	1,157	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																																																																																																			
Date: _____		MRB (QSI042) Approval																																																																																																																																			
Description		Completed By																																																																																																																																			
Dart Aerospace Ltd. 1270 Aberdeen Street Newbury, ON K6A 1K7 CANADA TEL: 1 813 632-5200 Email: sales@dartero.com www.dartaerospace.com Container No: S100168 Part: D206-558-041 Job No: 181608 Serial No/Batch: S100168 Revision: _____ Inspector: _____ Exp Date: _____ Instructions: TC STC SH92-17 Issue 7 as of 10/10/10		Lead hand / Supervisor Approval Verification																																																																																																																																			
Root Cause <table style="width:100%; font-size: x-small;"> <tr> <td>Environment</td><td>☐</td> <td>No Re-verfic</td><td>☐</td> </tr> <tr> <td>Design</td><td>☐</td> <td>Operator</td><td>☐</td> </tr> <tr> <td>Doc/Data</td><td>☐</td> <td>Offset/Setu</td><td>☐</td> </tr> <tr> <td>Equip/Tooling</td><td>☐</td> <td>Supplier</td><td>☐</td> </tr> <tr> <td>Handling/Pre</td><td>☐</td> <td>Training</td><td>☐</td> </tr> <tr> <td>Material</td><td>☐</td> <td>Use for Testing</td><td>☐</td> </tr> <tr> <td>Internal Transport</td><td>☐</td> <td>Poor Information</td><td>☐</td> </tr> <tr> <td>Tribal Knowledge</td><td>☐</td> <td>Rushing</td><td>☐</td> </tr> <tr> <td>LOA</td><td>☐</td> <td>Product Improvement</td><td>☐</td> </tr> <tr> <td>Substation</td><td>☐</td> <td>Process Improvement</td><td>☐</td> </tr> <tr> <td>Past Expiry Date</td><td>☐</td> <td>Manufacturing Process</td><td>☐</td> </tr> <tr> <td>Misidentified</td><td>☐</td> <td>Past Due</td><td>☐</td> </tr> </table>		Environment	☐	No Re-verfic	☐	Design	☐	Operator	☐	Doc/Data	☐	Offset/Setu	☐	Equip/Tooling	☐	Supplier	☐	Handling/Pre	☐	Training	☐	Material	☐	Use for Testing	☐	Internal Transport	☐	Poor Information	☐	Tribal Knowledge	☐	Rushing	☐	LOA	☐	Product Improvement	☐	Substation	☐	Process Improvement	☐	Past Expiry Date	☐	Manufacturing Process	☐	Misidentified	☐	Past Due	☐	<table style="width:100%; font-size: x-small;"> <tr> <td>Cracks</td><td>☐</td> <td>Inspection Incomplete/Unqualified</td><td>☐</td> <td>Wrong Stock Pulled</td><td>☐</td> <td>Positioned Wrong</td><td>☐</td> </tr> <tr> <td>Crimp/Kink/Ripple/Wave</td><td>☐</td> <td>Contamination</td><td>☐</td> <td>Out of Sequence</td><td>☐</td> <td>Outside Dimensions</td><td>☐</td> </tr> <tr> <td>Cuffs</td><td>☐</td> <td>Countersink</td><td>☐</td> <td>Off-set</td><td>☐</td> <td>Over/Under tolerance</td><td>☐</td> </tr> <tr> <td>Crushing</td><td>☐</td> <td>Cut Too Short</td><td>☐</td> <td>Mislabeled</td><td>☐</td> <td>Part Incorrect</td><td>☐</td> </tr> <tr> <td>Heat Treat</td><td>☐</td> <td>Instructions Incomplete/Unclear</td><td>☐</td> <td>Fit/Function</td><td>☐</td> <td>Part Lost/Missing</td><td>☐</td> </tr> <tr> <td>Wave/Twist in Tube</td><td>☐</td> <td>Drill Holes</td><td>☐</td> <td>Misaligned/off center</td><td>☐</td> <td>Part Moved</td><td>☐</td> </tr> <tr> <td>Marks/Chatter</td><td>☐</td> <td></td><td></td> <td></td><td></td> <td>Drawing</td><td>☐</td> </tr> <tr> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td>Finish</td><td>☐</td> </tr> <tr> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td>Misread</td><td>☐</td> </tr> <tr> <td></td><td></td> <td></td><td></td> <td></td><td></td> <td>Turning Sequence</td><td>☐</td> </tr> </table>				Cracks	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Positioned Wrong	☐	Crimp/Kink/Ripple/Wave	☐	Contamination	☐	Out of Sequence	☐	Outside Dimensions	☐	Cuffs	☐	Countersink	☐	Off-set	☐	Over/Under tolerance	☐	Crushing	☐	Cut Too Short	☐	Mislabeled	☐	Part Incorrect	☐	Heat Treat	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Part Lost/Missing	☐	Wave/Twist in Tube	☐	Drill Holes	☐	Misaligned/off center	☐	Part Moved	☐	Marks/Chatter	☐					Drawing	☐							Finish	☐							Misread	☐							Turning Sequence	☐
Environment	☐	No Re-verfic	☐																																																																																																																																		
Design	☐	Operator	☐																																																																																																																																		
Doc/Data	☐	Offset/Setu	☐																																																																																																																																		
Equip/Tooling	☐	Supplier	☐																																																																																																																																		
Handling/Pre	☐	Training	☐																																																																																																																																		
Material	☐	Use for Testing	☐																																																																																																																																		
Internal Transport	☐	Poor Information	☐																																																																																																																																		
Tribal Knowledge	☐	Rushing	☐																																																																																																																																		
LOA	☐	Product Improvement	☐																																																																																																																																		
Substation	☐	Process Improvement	☐																																																																																																																																		
Past Expiry Date	☐	Manufacturing Process	☐																																																																																																																																		
Misidentified	☐	Past Due	☐																																																																																																																																		
Cracks	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Positioned Wrong	☐																																																																																																																														
Crimp/Kink/Ripple/Wave	☐	Contamination	☐	Out of Sequence	☐	Outside Dimensions	☐																																																																																																																														
Cuffs	☐	Countersink	☐	Off-set	☐	Over/Under tolerance	☐																																																																																																																														
Crushing	☐	Cut Too Short	☐	Mislabeled	☐	Part Incorrect	☐																																																																																																																														
Heat Treat	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Part Lost/Missing	☐																																																																																																																														
Wave/Twist in Tube	☐	Drill Holes	☐	Misaligned/off center	☐	Part Moved	☐																																																																																																																														
Marks/Chatter	☐					Drawing	☐																																																																																																																														
						Finish	☐																																																																																																																														
						Misread	☐																																																																																																																														
						Turning Sequence	☐																																																																																																																														
OTHER: _____																																																																																																																																					

4.0 WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D206-558-041	2.4 lb	+5.0 in	+12.0 in-lb	+14.8 in	+35.5 in-lb
Bell 206A/B/L/L1/L3/L4	1.09 Kg	+0.13 m	+0.14 m-Kg	+0.38 m	+0.41 m-Kg
D206-558-043	3.0 lb	0.0 in	0.0 in-lb	+14.8 in	+44.4 in-lb
Bell 206A/B/L/L1/L3/L4	1.36 Kg	0.0 m	0.0 m-Kg	+0.38 m	+0.52 m-Kg
D407-558-045	2.4 lb	+5.0 in	+12.0 in-lb	+14.8 in	+35.5 in-lb
Bell 407	1.09 Kg	+0.13 m	+0.14 m-Kg	+0.38 m	+0.41 m-Kg
D407-558-047	3.0 lb	0.0 in	0.0 in-lb	+14.8 in	+44.4 in-lb
Bell 407	1.36 Kg	0.0 m	0.0 m-Kg	+0.38 m	+0.52 m-Kg

5.0 PARTS LIST

Qty -041	Qty -043	Qty -045	Qty -047	Part Number	Description
X				D206-558-041	SINGLE CARGO MIRROR ASSEMBLY
	X			D206-558-043	DUAL CARGO MIRROR ASSEMBLY
		X		D407-558-045	SINGLE CARGO MIRROR ASSEMBLY
			X	D407-558-047	DUAL CARGO MIRROR ASSEMBLY
1	2	1	2	D2011-101	MIRROR ASSEMBLY
2	2	2	2	D2052**	BRACKET
1	1	1	1	D2053	BRACKET
2	2	2	2	D2054**	BUSHING
1	1	1	1	D2055**	CLAMP
1	1	1	1	D2056**	BELLCRANK ASSEMBLY
1		1		D2057	PLUG
1		1		D2065	ARM
	1		1	D2066	ARM
1	1	1	1	D2067	CONNECTOR
1	1			D2071	CABLE ASSEMBLY
		1	1	D2071-5	CABLE ASSEMBLY
1	2	1	2	D3014-1*	LOCKNUT
1	1			D3778-1	BRACKET
		1	1	D3778-3	BRACKET
4	4	4	4	AN3-4A	BOLT
4	4	4	4	AN526-1032R9	SCREW
1	2	1	2	NAS1149D0416P*	WASHER (AN960JD416L)
4	4	4	4	NAS1149D0363P**	WASHER (AN960JD10)
6	6	6	6	NAS1149D0332P	WASHER (AN960JD10L)
3	1	3	1	MS21042-3	NUT (or MS21042L3)
	2		2	MS21042-3**	NUT (or MS21042L3)
2	2	2	2	MS21919DG5	CLAMP
2	2	2	2	MS27039-1-18**	SCREW
1	1	1	1	MS35489-9	GROMMET
1	1	1	1	MS35489-67	GROMMET

* INCLUDED AS PART OF D2011-101 MIRROR ASSEMBLY

** INCLUDED AS PART OF D2066 ARM (REF. -043/-047 ONLY)

Kim Johnston

From: Sonia Quirion
Sent: Thursday, August 09, 2018 12:03 PM
To: Kim Johnston
Subject: p/w

D407-558-045 x4
and l/b S100380 x2 s100352 x2
D206-558-041 S100168 x1 just l/b

Change Record

PAGE 1 OF 1

Part Number: D206-558-041

Description: SINGLE MIRROR INSTALLATION

[illegible]